	Application No.	Applicant(s)
Notice of Allowability	10/613,733	TAKAHASHI, KENJI
	Examiner	Art Unit	
	Manav Seth	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *10/27/2005*.

2. ☒ The allowed claim(s) is/are *5, 3, 4, 7, 8, 19 and 20 (renumbered as claims 1-7) and claims 9, 11, 12, 14-18, 21 and 22 (renumbered as claims 8-17)*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date *08/20/2004*

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *02/23/2007* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

Examiner's Amendment

1.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312.

To ensure consideration of such an amendment, it MUST be submitted no later than the payment of

the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with

applicant's attorney/agent of record, Mr. Matthew K. Blackburn, Registration No. 47,428, on

02/22/2007, at 5:00 p.m., Examiner's amendment:

In The Claims

2.   The following changes to the claims have been approved by the examiner and agreed upon

by applicant:

(a) Replace the subject matter of claim 5 with:

Claim 5. (Amended) An image sensing apparatus which has an image sensing element, an A/D

conversion section which converts an output from the image sensing element, an image processing

section which processes digital image data obtained from the A/D conversion section, a conversion

section which converts the digital image data into output image data by image-processing in said

image processing section, and a recording section which records the output image data to a

recording medium,

wherein said image processing section comprises a white balance processing section which

executes the white balance processing in the digital image data by using white balance coefficients, a

matrix arithmetic processing section which executes a matrix arithmetic processing by changing a

coefficient in accordance with a color temperature of a light source, and a three-dimensional lookup

table arithmetic processing section which performs a color conversion of a specific color by using a

parameter according to a lattice point of three colors, and

wherein said image processing section performs a white balance processing, a matrix

arithmetic processing, and a three dimensional lookup table arithmetic processing in the order

named.

(b) Replace the subject matter of claim 9 with:

Claim 9. (Amended)   An image signal processing method which comprises an image

processing step of A/D converting an output signal of an image sensor, which senses an

image of an object, into a plurality of digital data and converting the digital data into an

output image data,

wherein the image processing step comprises a white balance processing step of

executing the white balance processing to the digital image data by using white balance

coefficients, a matrix arithmetic processing step of executing matrix arithmetic processing by

changing a coefficient in accordance with a color temperature of a light source, and three-

dimensional lookup table arithmetic processing step of performing a color conversion of a specific color by using a parameter according to a lattice point of three colors, and

wherein the image processing step performs a white balance processing, a matrix arithmetic processing, and a three-dimensional lookup table arithmetic processing in the order named, thereby performs the color conversion according to a color adaptability based on the color temperature in the white balance processing and the matrix arithmetic processing before the three-dimensional lookup table arithmetic processing, subsequently performs a color conversion of a specific color in the three-dimensional lookup table arithmetic processing step.

(c) Replace the subject matter of claim 12 with:

Claim 12. (Amended) The method according to claim 9, wherein the digital image data is processed in the white balance processing step before the three-dimensional lookup table arithmetic processing step.

(d) Replace the subject matter of claim 14 with:

Claim 14. (Amended) The method according to claim 9, wherein the method further comprises an interpolation processing step of interpolating an output from the image sensing element having a color filter comprising a plurality of colors, and the interpolation processing step executes processing before the three-dimensional lookup table arithmetic processing step.

(e) Replace the subject matter of claim 17 with:

Claim 17. (Amended) A program embodied on a computer-readable storage medium for causing a computer to execute an image signal processing method of claim 9.

(f) Replace the subject matter of claim 20 with:

Claim 20. (Amended) The apparatus according to claim 5, further comprising an interpolation processing section which interpolates an output signal from the image sensing element in front of which a color filter having a plurality of colors is arranged, wherein said interpolation processing section is arranged before said three-dimensional lookup table arithmetic processing section.

(g) Replace the subject matter of claim 21 with:

Claim 21. (Amended) The method according to claim 9, further comprising a gamma processing step in which a gamma processing is performed by degrading a bit number of the image signal, wherein said gamma processing step is performed between said matrix arithmetic processing step and the three-dimensional lookup table arithmetic processing step.

(h) Replace the subject matter of claim 22 with:

Claim 22. (Amended) The method according to claim 9, further comprising an interpolation processing step in which an output signal from the image sensing element, in front of which a color filter having a plurality of colors is arranged, is interpolated, wherein said interpolation processing step is performed before the three-dimensional lookup table arithmetic processing step.

Allowable Subject Matter

Reasons of Allowance:

3.   Claims **5, 3, 4, 7, 8, 19 and 20 (renumbered as claims 1-7)** and **claims 9, 11, 12, 14-18, 21 and 22 (renumbered as claims 8-17)** are allowed.

The following is an examiner's statement of reasons of allowance:

The instant invention is directed to a color image processing method and system, which recites an image processing section that performs a white balance processing, a matrix arithmetic processing, and three dimensional lookup table arithmetic processing in the order named. Though these three different processing techniques are very well known techniques to be used in the color image processing and are separately taught by the references Sato, U.S. Patent No. 6,650,365 and Takemura, U.S. Patent No. 5,920,358, however, the prior art of record does not teach all three respective color image processing steps in the order as named as recited in claims 5 and 9 and it would not be obvious for one of ordinary skill in the art to combine these references as the output of one processing step is the input of the other and the prior art of record does not provide any motivation to do so in the order named. Therefore claims 5 and 9 are allowed. All other claims depending on claims 5 and 9 are allowable at least by dependency on claims 5 and 9.
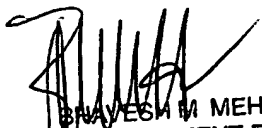
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manav Seth whose telephone number is (571) 272-7456. The examiner can normally be reached on Monday to Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manav Seth
Art Unit 2624
February 23, 2007

BHAVESH M MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600